LAKE PONTCHARTRAIN BASIN FOUNDATION

SAVE OUR COAST SAVE OUR LAKE

20 YEARS OF SAVING OUR LAKE AND COAST

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LPBF Comments for the State's 2012 Master Plan

General SMP Approach and the Multiple Lines of Defense

The State Master Plan (SMP) represents a milestone not only for Louisiana, but for our nation, in the application of science, engineering and economics to a complex coastal crisis. Integration of landscape scale, coastal restoration, and structural and non-structural protection through the use of the Multiple Lines of Defense approach required groundbreaking methods and analytical techniques. The Multiple Lines of Defense concept was developed as a way to use natural features and natural processes to reinforce our flood protection. Levees protect communities, but functioning, and sustainable wetlands protect our levees. This concept is practical because it includes a mix of restoration techniques and has always included restoration of the Mississippi River's natural land building processes. The SMP makes a clear case that river diversions must be included as a vital component of future sustainability.

The SMP utilizes the Multiple Lines of Defense techniques and better defines what is and what is not feasible for our coast, more successfully than in any previous effort. The input from outside experts, consultants, focus groups, the public and the Framework Development Team illustrates the robustness that the state desires to in order to produce the best possible plan using the best available information and technology. The ecologic models used to determine the future ecosystem services were developed using appropriate experts, and capture critical information about the ecosystem response. Although not perfect, this information is extremely valuable and should be continuously improved and shared with the public for specific projects and for programmatic changes to our coastal ecosystem.

It is appropriate that with the Draft SMP under public review and comment that changes are contemplated to the draft SMP. Changes may be warranted, but we urge that any changes still support the SMP goals and be technically defensible. To do otherwise diminishes the plan and does not serve the best interest of the public.

Decision Criteria

We support the Objectives, Principles, Decision Criteria, and Decision Drivers developed by the State to guide the State Master Plan project analysis and selection. Considering the comprehensive, coast-wide planning approach of the State Master Plan, we believe that the primary Decision Drivers of flood risk reduction and land building, although broadly constructed, are appropriate at this time. In the future, we recommend that the land-building criteria be expanded to incorporate risk-reduction, strategic location and the economic value of Ecosystem Services. We also recommend that the State improve the Master Plan process going forward with a more thorough analysis and integration of Ecosystem Services. Specifically, we recommend that the State develop a more quantitative analysis of how project outputs influence Ecosystem Services.

We also support the Decision Criteria selected by the State to evaluate trade-offs and influencing factors within the Decision Drivers. Specifically, we strongly support the State's reliance on

Sustainability, Use of Natural Processes, and Operations and Maintenance Costs as key influencers of the Decision Drivers. We also strongly support the Plan's adoption of less optimistic scenarios for future conditions and the subsequent emphasis placed on persistence of benefits over time. Among the Decision Criteria that could be improved, we recommend that the State incorporate a more thorough quantitative analysis of enhancements or impediments under the criteria of Support for Navigation. Future investigations of channel realignment should consider the "pass closure" option to use Pass a Loutre for deep draft navigation while closing off other lower passes, including Southwest Pass.

Funding Allocations

The SMP imposes funding boundaries or caps on the draft plan, which is extremely useful to force prioritization. We support the State's decision to have a fixed allocation of funding between restoration and risk-reduction projects that is nearly equal. More specifically, we endorse the methodology of using population density as the most objective, fair and transparent criteria for establish risk-reduction targets. However, risk reduction without ecosystem restoration will amount to a hollow victory as the loss of our coastal wetlands and the jobs, industries and way of life that depend upon them would obviate the need for many of us to live here. The State should, therefore, be prepared to skew expenditures toward restoration if it becomes apparent that a better balance can be achieved in this manner.

Channel Re-alignment

The plan identifies Mississippi River channel re-alignment projects as the single most effective means for building new land. We are aware that re-alignment can only be achieved as a practical matter if it is done in a way that actually improves deep draft navigation, and we support that goal. The plan merely recommends further development of the concept. However, we recommend that the plan affirmatively declare the State's intention to re-align the channel. Such an affirmation would be consistent with the modeling results and would better reflect the path that the science and the planning tool recommend. Channel re-alignment, and indeed massive upstream diversions, could hasten the demise of the Bird's Foot, and specifically of state and federal trust resources at Pass a Loutre Wildlife Management Area and Delta National Wildlife Refuge. These crucial habitats exist nowhere other than at the mouths of the Mississippi and Atchafalaya rivers. Upstream diversions and channel realignment will eventually create even more habitat than now exists, but until that can happen, measures must be taken to better manage the diminishing habitat in the Bird's Foot, and the plan should acknowledge the problem and spell out the strategy. This should include better sediment management and channel maintenance in Pass a Loutre and Main Pass. It should also include identifying the role of Federal partners to work in a unified way to advance restoration of the Delta, pursuant to the recommendations of the Gulf Coast Ecosystem Restoration Task Force. Future investigation of channel realignment should consider the "pass closure" option to use Pass a Loutre for deep draft navigation while closing off other lower passes, including Southwest Pass.

Swamp Metrics

One of the limitations of the 2012 planning effort was that the models did not effectively measure the conversion of swamp to marsh habitat. Strategies for preserving the swamps and for restoring lost swamp, should become a goal of the 2017 plan, and that goal should be acknowledged in this plan. Swamp sustaining diversions or spillways, designed not just for land-sustenance but also for habitat sustenance, will be necessary. Otherwise, three of the nation's largest swamps in the upper Pontchartrain, Barataria, and Terrebonne Basins will eventually be converted to floating freshwater marsh, with serious loss of vital habitat for a suite of species that reach their highest abundance in the Delta. Opportunities also exist for restoring and sustaining remnant swamps in the Maurepas Basin and the Central wetlands area and should be modeled.

Significant opportunities exist to reverse deterioration of the swamp land bridge between Lakes Pontchartrain and Maurepas, but projects to divert water either directly from the River into the Maurepas Swamp or through the Bonnet Carre Spillway have been undervalued because of the way the habitat values of a healthy compared to a dying swamp are counted. Strategies for preserving existing riverine and estuarine swamps, and for restoring lost swamp should be identified as an SMP goal, both because of the high habitat value and because they reduce storm surge and attenuate waves more effectively than other wetlands. Opportunities also exist for restoring and sustaining remnant swamps in places where they would perform important flood risk reduction services in the Labranche Wetlands adjacent to levees of the East Jefferson and Lake Pontchartrain Levee Districts.

Marsh Creation Projects/ Lines of Defense projects

The SMP clearly shows that the need to artificially create wetlands through pumping of sediment is necessary, but can only be done on a limited basis due to cost and the potential for future land loss of what may be unsustainable wetlands. We support the state's huge financial commitment of $17.9 billion for marsh creation, but that still can only produce a finite number of acres. The selection of where to re-build these artificial wetlands must be done wisely. We do recommend that the State investigate the use of natural gas as a cost savings for marsh creation.

The plan's commitment to use Critical Landscape Features from the LACPR report as a guide to identify coastal areas that are not only ecologically significant, but also provide critical surge buffering for our coast, is an excellent choice. The result in the SMP is that strategically placed marsh creation areas are "Lines of Defense" provide dual ecologic and economic benefits that are desperately needed in our coast. Similarly, future modeling should continue to identify synergies between marsh creation and diversions that increase the land built and the provision of Ecological Services. In particular, we strongly support the marsh creation projects on the Orleans Land Bridge, and the Biloxi Marsh. We also strongly support the State's early NRDA restoration of the Chandeleur Islands.

MRGO Restoration Implications

We strongly support the SMP's inclusion of several MRGO related restoration projects, including:

- Marsh creation in the Biloxi Marsh and East Orleans Land Bridge
- Bayou la Loutre ridge restoration
- Lake Borgne shoreline restoration and MRGO bank line restoration
- Sediment diversion in the Central Wetlands at the Violet Canal, which recreates the historic connection between the Mississippi River and the surrounding wetlands. The 2012 State Master Plan should recognize the linkage of the Central Wetlands diversion to future marsh and swamp restoration in the Central Wetlands, and the potential of the "platform" site at the Triangle area as vehicle to promote coastal restoration at the highest levels of government.

We do strongly recommend of oyster reef restoration as part of the Biloxi Marsh restoration.

River Diversions

The SMP uses a process that selects projects that are the most effective coast-wide. The plan would pump sediment to rebuild land where it has been shown that an area provides vital flood protection benefit, and where the river is not an alternative to build land. Building land for 1/4th the cost of pumping sediment by using the river (where this can be done) , stretches State and Federal dollars so that money is available to re-build land by pumping sediment where the river is not available.

In the Pontchartrain Basin, we support the idea of land building diversions within the Breton Basin. The exact location and size of these diversions still needs further study, but regardless of that, they are recommended by LPBF even though they will have profound effects on fisheries within this Basin. We recognize that such changes are necessary to utilize the river resources where it can be done. The LCA White Ditch Diversion may be a suitable replacement for the Lower Breton Basin diversion in the SMP. It should also be recognized that there is a naturally developing distibutary pass in the Bohemia Spillway that is 1.3 miles from a SMP diversion site. This naturally developing diversion may be a suitable replacement for the Middle or Lower Breton Diversion. LPBF also strongly supports the Blind River/Convent Diversion to the maximum extent it may be utilized to save the "relic" cypress forest in the Maurepas swamps. LPBF strongly maintains that, even with these diversions, the Biloxi Marsh must be targeted as a brackish marsh so that it will be sustainable. This landform is absolutely vital to protect the greater New Orleans region and the Mississippi Coast. A brackish habitat is more resilient to storm surge and will have robust oyster production and reefs that contribute to its sustainability. The SMP should include oyster reef projects in the Biloxi Marsh once the Ecosystem Services are determined.

The State must improve the "transition" resources for coastal communities, individuals and businesses affected by projects such as river diversions. First, the State must be forthright to the fullest extent technically possible to explain and clarify the new distribution of fisheries by individual and collective impacts of diversion projects. Secondly, the state should assist those affected with training and incentives. However, it should also be clear that the State is not liable for changes in fisheries that are determined to be in the best interest of the general public.

Non-Structural

We applaud the Coastal Master Plan for developing $12.9 billion in nonstructural projects in order to increase the resilience of coastal communities. The sheer scope and breadth of projects in the Master Plan demonstrates the State's commitment to providing a robust system of risk reduction for coastal communities in a cost-effective and comprehensive manner. This Master Plan places nonstructural measures as a critical tool alongside coastal restoration and structural measures in the creation of a resilient and sustainable coastal Louisiana. We are pleased that the SMP does recommend a 500 year level of risk reduction for the Greater New Orleans region, but disappointed that is without continued non-structural approaches. We understand that, as a priority of funding and with the recommendation to otherwise improve protection to a 500-year level, this is justifiable. Nevertheless, non-structural programs are in place and the State should encourage individuals to take maximum advantage of these programs as a short term measure and as long term redundancy in protection from flooding.

Pontchartrain Barrier and Protection Outside of Lake Pontchartrain and Vicinities

LPBF appreciates the potential value of the alternative to construct a "barrier" type project on the Orleans Land Bridge that would include some form of flood gates on the natural tidal passes. Based on the SMP analysis, this could generate significant cost effectiveness as a flood control measure, and so this warrants further study. Future analysis must seek to maintain the natural hydrologic conditions and minimize the ecologic impacts. We strongly request LPBF's report titled *"Framework for Environmental Assessment of Alternative Flood Control Structures on Chef Menteur and Rigolets Passes within the Lake Pontchartrain Estuary, Southeast Louisiana"* be reviewed to guide future environmental evaluations (see saveourlake.org). We also request that LPBF be part of any advisory or technical teams for the future study of the barrier plan evaluation and future design. We also strongly endorse the state's plan that any barrier evaluation should be done in parallel with other short-term risk reduction measures. The Slidell ring levee should be completed and non-structural projects for other north shore areas should proceed as included in the SMP.

Going Forward

Going forward, the state should continue to seek to design structural projects that will complement, rather than impede, future restoration efforts - even efforts that are not yet fully envisioned. Simply put, the State should attempt to avoid designs that bisect wetlands or that add new impediments to future diversion or spillway needs.

We recommend that the state begin now to develop the next generation of projects to incorporate into the 2017 Master Plan. The next plan iteration should not rely on the existing inventory of projects, but rather design projects to fit un-met needs. Given the adaptive management emphasis in the Plan, it is important to have a mechanism for developing new project ideas, based on what has been learned from the Master Planning Process and from projects on the ground. This adaptive process is essential if we are to fully understand how the current projects in the plan stack up against what is needed. It will provide credible mechanisms for closing the gap between what appears feasible at present and what is really necessary for coastal restoration and protection. Additional robustness is needed for the storm surge modeling. Additional sources of expertise should be utilized to reduce the lag in results and improve the quality of the modeling.

Sincerely,

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